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**Lab Dept:** Urine/Stool

**Test Name:** N-METHYLHISTAMINE, RANDOM URINE

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***General Information***

**Lab Order Codes:** NMHR

**Synonyms:** N/A

**CPT Codes:** 82542 – Column chromatography, non-drug, not elsewhere specified, qualitative or quantitative, each specimen  
82570 – Creatinine, other source

**Test Includes:** N-Methylhistamine measured in mcg/g Creatinine and Urine Creatinine measured in mg/dL.

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***Logistics***

**Test indications:** Screening and monitoring of mastocytosis and disorders of systemic mast-cell activation, such as anaphylaxis and other forms of severe systemic allergic reactions using random urine specimens.

Monitoring therapeutic progress in conditions that are associated with secondary, localized, low-grade persistent, mast-cell proliferation and activation such as interstitial cystitis.

**Lab Testing Sections:** Urine/Stool - Sendouts

**Referred to:** Mayo Clinical Laboratories (Mayo Test: NMHR)

**Phone Numbers:** MIN Lab: 612-813-62

STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hrs

**Turnaround Time:** 3 – 5 days, performed Tuesday and Thursday

**Special Instructions:** See [Patient Preparation](#)

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***Specimen***

**Specimen Type:** Random urine

**Container:** Random urine cup

<b>Draw Volume:</b>	5 mL (3 mL) aliquot from a random urine collection
<b>Processed Volume:</b>	Same as Draw Volume
<b>Collection:</b>	Random urine collection with no preservative
<b>Special Processing:</b>	Lab Staff: Remove the desired aliquot and place urine in a plastic, 5 mL urine tube. Store and ship at refrigerated temperatures.
<b>Patient Preparation:</b>	Patient must not be taking monoamine oxidase inhibitors (MAOIs) or aminoguanidine as these medication increase N-Meptyhistamine (NH) levels
<b>Sample Rejection:</b>	Mislabeled or unlabeled specimens

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***Interpretive***

<b>Reference Range:</b>	<b>Age</b>	<b>Reference Range mcg/g creatinine</b>
	0 – 5 years	120 – 510
	6 – 16 years	70 – 330
	>16 years	30 – 200

**Critical Values:** N/A

**Limitations:** While an average North American diet has no effect on urinary N-Methylhistamine (NMH) levels, mild elevation (around 30%) may be observed on very histamine-rich diets. This problem is more pronounced if random urine specimens are used and collected following a histamine-rich meal.

NMH levels may be depressed in individuals who have an alteration in the histamine-N-methyl transferase gene, which encodes the enzyme that catalyzes NMN formation. This alteration results in an amino acid change that decreases the rate of NMH synthesis.

When N-acetylcysteine is administered at levels sufficient to act as an antidote for the treatment of acetaminophen overdose, it may lead to falsely decreased creatinine results.

**Methodology:** NMH: Liquid Chromatography – Tandem Mass Spectrometry (LC-MS/MS)  
Creatinine: Enzymatic Colorimatic Assay

**References:** [Mayo Clinical Laboratories](#) (April 2020)